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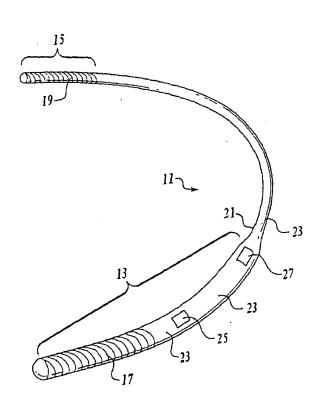
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(54) Title: UNITARY SUBCUTANEOUS ONLY IMPLANTABLE CARDIOVERTER-DEBRIBILLATOR AND OPTIONAL PACER



A unitary subcutaneous (57) Abstract: cardioverter-defibrillator implantable disclosed which has a long thin housing in the shape of a patient's rib. The housing contains a source of electrical energy, a capacitor, and operational circuitry that senses the presence of potentially fatal heart rhythms. Provided on the housing are cardioversion/defibrillation electrodes located to deliver electrical cardioversion-defibrillation energy when the operational circuitry senses a potentially fatal heart rhythm. The unitary subcutaneous implantable cardioverter-defibrillator does not have a transvenous, intracardiac, epicardial, or subcutaneous electrode



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## IN IRNATIONAL SEARCH REPORT

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C. DOCUME	ENTS CONSIDERED TO BE RELEVANT	
Calegory *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 385 574 A (HAUSER ROBERT G ET AL) 31 January 1995 (1995-01-31)	1,35,69, 85,96, 102,103, 105-108
	the whole document	
A	US 4 157 720 A (GREATBATCH WILSON) 12 June 1979 (1979-06-12)	1,35,69, 85,96, 102,103, 105-108
	the whole document	
A	EP 0 627 237 A (TRABUCCO HECTOR OSVALDO ;GAVRIELIDES JORDAN (DE)) 7 December 1994 (1994-12-07)	1,35,69, 85,96, 102,103, 105-108
	the whole document	
	-/	
X Fu	urther documents are listed in the continuation of box C.	arnily members are listed in annex.
'A' docu	or priority da	nt published after the international filing date ate and not in conflict with the application but erstand the principle or theory underlying the
filing *L* documents cital *O* documents	g date cannot be c	particular relevance; the claimed invention on sidered novel or cannot be considered to neentive step when the document is taken alone particular relevance; the claimed invention on sidered to involve an inventive step when the s combined with one or more other such docu- h combination being obvious to a person skilled
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### IN RNATIONAL SEARCH REPORT

Intel. Jonal Application No PCT/US 01/29106

(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	PCT/US 01	. =
Category °	Citation of document, with indication, where appropriate, of the relevant passages	· · · · · · · · · · · · · · · · · · ·	Relevant to claim No.
A	US 5 331 966 A (BENNETT TOM D ET AL) 26 July 1994 (1994-07-26)		1,35,69, 85,96, 102,103, 105-108
	the whole document		105 100
Υ	WO 99 53991 A (ALZA CORP) 28 October 1999 (1999-10-28) the whole document		113
Y	US 6 093 173 A (BALCETA JOBERT P ET AL) 25 July 2000 (2000-07-25) the whole document		113
Α	WO 97 29802 A (LOEB GERALD E ;RICHMOND FRANCES J R (CA); ADVANCED BIONICS CORP (U) 21 August 1997 (1997-08-21) the whole document		113
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### FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-31,35-108

unitary subcutaneous implantable cardioverter-defibrillator

2. Claim : 113

apparatus for implanting an implantable cardioverter-defibrillator

### IN IRNATIONAL SEARCH REPORT

Information on patent family members

Intel Jonal Application No

		date		member(s)	date
US 5385574	L	31-01-1995	US		
	,,	21 01-1332	AT	5133353 A	28-07-199
				168024 T	15-07-199
			AU	641224 B2	16-09-199
			AU	7354591 A	07-11-199
			CA	2040800 A1	26-10-199
			DE	69129716 D1	13-08-1998
•			DE	69129716 12	
			DK		24-12-1998
				453761 13	19-04-1999
			EP	0453761 A1	30-10-1993
			ES	2120411 T3	01-11-1998
			JP	5064666 A	19-03-1993
			US	6157860 A	05-12-2000
		•	US	5713926 A	03-02-1998
			ÜS	6280462 B1	
			US		28-08-2001
				5916238 A	29-06-1999
US 4157720	Α	12-06-1979	AU	521296 B2	25-03-1982
			ΑU	3986278 A	20-03-1980
			CA	1120548 A1	23-03-1982
			DE	2840307 A1	
			FR	2402075 41	29-03-1979
				2403075 A1	13-04-1979
			GB	2004188 A ,B	28-03-1979
			ΙL	55526 A	31-03-1981
			JP	54060791 A	16-05-1979
			MX	146747 A	05-08-1982
			NL	7809422 A	20-03-1979
			SE	7809645 A	
				7609045 A	17-03-1979
EP 0627237	Α	07-12-1994	US	5243977 A	14-09-1993
			EP	0627237 A1	07-12-1994
US 5331966	Α	26-07-1994	AU	654552 B2	10 11 1004
	. •	, _,	AU		10-11-1994
				1750692 A	02-11-1992
			CA	2106378 A1	06-10-1992
			DE	69210395 D1	05-06-1996
			DE	69210395 T2	09-01-1997
			EΡ	0578748 A1	19-01-1994
			JP	2655204 B2	17-09-1997
			JP	6505662 T	
			WO ·		30-06-1994
				9217240 A1	15-10-1992 
WO 9953991	Α	28-10-1999	ΑU	. 3748899 A	08-11-1999
			TW·	442273 B	23-06-2001
			WO	9953991 A1	28-10-1999
US 6093173	 А	25-07-2000	NONE		
 WO 9729802		21 00 1007		0.7000	
MO 3/23002	А	21-08-1997	WO	9729802 A2	21-08-1997 06-02-2001
			US	6185455 B1	06-02-2001
			US		10-04-2001
			US	6051017 A	18-04-2000